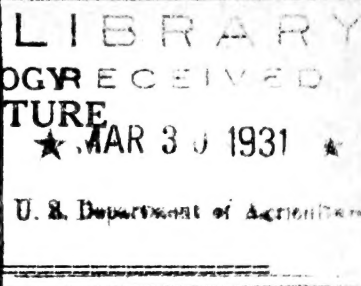


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185
MONTHLY LETTER OF THE BUREAU ENTOMOLOGY
UNITED STATES DEPARTMENT OF AGRICULTURE



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J. E. GRAF TO BE ASSOCIATE DIRECTOR OF THE NATIONAL MUSEUM

J. E. Graf, who has been associated with the Bureau of Entomology for the past twenty years, has submitted his resignation, effective March 5, to become Associate Director of the United States National Museum.

Mr. Graf was appointed an agent of the Bureau at Compton, Calif., in 1911, after his graduation from Pomona College. In 1918 he was promoted to entomologist in charge of sweet-potato weevil investigations. With the advent of the Mexican bean beetle in the East in 1920, Mr. Graf's activities were enlarged to include this problem. In 1923 he was called to Washington, where he was placed in charge of the Division of Truck-Crop Insect Investigations. In 1928 he was made Assistant Chief of the Bureau, in charge of Business Administration, and head of the Division of Truck-Crop Insects.

Mr. Graf was also, for three years, a member of the Federal Horticultural Board, and a member of the Board of Advisors to the Plant Quarantine and Control Administration.

On February 1, 1931, the administrative work of the Bureau was realigned, the position of Assistant Chief of Bureau being set up with broadened duties and responsibilities. At the same time, the position of Business Manager of the Bureau was made an independent one.

Mr. Graf was appointed to the new position of Assistant Chief on February 21, 1931.

Mr. Graf's services in the Bureau have been of the highest order, and his withdrawal is a serious loss to it and to economic entomology. The very best wishes of his associates are extended to him in his new field of activity.

F. C. Bishopp has been designated Acting Assistant Chief of the Bureau.

Frank H. Spencer has been appointed Business Manager of the Bureau. Since 1926 Mr. Spencer has been administrative assistant to the Secretary of Agriculture. Prior to his assignment to the Office of the Secretary he was engaged in general administrative work in the Bureau of Animal Industry, the Bureau of Markets, and the Division of Publications.

INFORMATION AND EDITORIAL

The last day of February, 1931, was marked by the retirement from active service of A. L. Colton, who for nearly seven years has been the editor of the Monthly Letter.

Mr. Colton was born in central Michigan. He graduated from the University of Michigan, receiving from his Alma Mater the degrees of Ph. B., A. B., and, later, A. M. After receiving the two bachelor's degrees he taught physics and chemistry for one year in St. Paul, Minn. He was next confidential clerk to the first chief of the U. S. Weather Bureau. After this experience he spent a little more than five years as assistant astronomer in the Lick Observatory, returning to the University of Michigan for several years of additional work, after the first of which he received his degree of Master of Arts. In the spring of 1900 he was a member of a party sent by the Naval Observatory to Pinehurst, N.C., to observe a total eclipse of the sun. He soon after spent four years as instructor in physics at the University of Wisconsin. Mr. Colton returned to Washington in 1910, and was employed for nearly two years as statistical clerk in the Tariff Board; from this branch of the service he was transferred to the Department of Agriculture. He came to the Bureau of Entomology in April, 1924.

The official statement that Mr. Colton was "retired from active service" is correct only from the Government's standpoint. In spite of the number of calendar years that have elapsed since his birth, he is still active, and in his new liberty plans to continue studies in the sciences of physics, meteorology, and astronomy. On the day of his retirement he was presented by his friends in the Editorial Office with several volumes of books of his own selection. These will form a background for further researches which he is hoping to make. Mr. Colton carries with him into his new activities the high esteem and regard of a host of friends throughout the Department.

INSECT PEST SURVEY

J. A. Hyslop, in Charge

M. T. Jones has returned from a short trip to Norfolk, Va., Lexington, Ky., Columbus, Ohio, Morgantown, W. Va., and Blacksburg, Va., where he consulted with extension entomologists and others on the organization of subject-matter work in economic entomology to be carried on in connection with county agents.

C. E. Smith, of the Division of Truck-Crop Insects, visited the office of the Insect Pest Survey on February 16 to look up data on the occurrence of the spotted cucumber beetle. Diabrotica duodecimpunctata Fab., in Louisiana.

STORED-PRODUCT INSECTS

E. A. Back, in Charge

Perez Simmons and Dwight F. Barnes attended the Twenty-third Annual Meeting of the Dried Fruit Association of California, held at Delmonste, February 9 to 10. Mr. Simmons read a paper entitled, "Dried fruit industry infestation problems."

On January 13 Dr. Back gave an informal illustrated talk on clothes moths before the Rug Cleaners Institute of America, during its convention held in the New Yorker Hotel, New York City.

Frank G. Hinman, a graduate of the Montana State College, was appointed Junior Entomologist, January 16, 1931, and has been assigned to investigations of the pea weevil, with headquarters at Corvallis, Oreg.

A public-service patent covering the use of ethylene oxide as a fumigant was granted on February 3 to Dr. R. T. Cotton of this Division, and to Dr. R. C. Roark of the Insecticide Division, Bureau of Chemistry and Soils, as representatives of the Department of Agriculture.

Through the courtesy of Laurel Duval, Chief Grain Inspector of the New York Produce Exchange, the Bureau has had the opportunity to cooperate in experiments in fumigating wheat with a mixture of ethylene oxide and carbon dioxide. In these experiments instead of using dry ice as a source of carbon dioxide and introducing the mixture into the grain as it enters the bin, in accordance with the method of procedure already published upon, the fumigating mixture was forced from cylinders into the grain column through a system of pipes and nozzles with which the bin was equipped. Dr. Cotton, who represented the Bureau during these experiments on February 3 to February 25, states that the results were very promising.

On February 12 A. W. Morrill, jr., gave a fifteen-minute talk on "Termites and their control," at a meeting of the Castillieja Nature Club of Fresno. The talk was based on his personal experiences with the problem as gained in and about Los Angeles before he entered the services of the Bureau.

On February 20 C. K. Fisher of the bean weevil laboratory at Modesto, and Messrs. Simmons, Barnes, and Morrill, of the dried-fruit insect laboratory, at Fresno, attended the meetings of the California Entomological Society, held at the Modesto General College, Modesto, Calif. Mr. Fisher read a paper on "The bean weevil situation in California." Mr. Essig was elected president of the Society for the coming year.

On February 7 W. D. Reed, of the tobacco insect laboratory, Danville, Va., gave an informal talk before representatives of North Carolina tobacco companies at Greenville, N. C. Everyone was interested in the Ephestia elutella infestations uncovered last summer, regarding which a brief notice appeared in the December issue of the Journal of Economic Entomology.

On January 29 A. O. Larson read a paper entitled, "A menace of the pea weevil to the seed industry," before a large gathering in connection with the Farm Science Short Course given January 26 to 31, by the Oregon State College, Corvallis.

In January the Oregon Agricultural Experiment Station, in cooperation with the U. S. Department of Agriculture, published Station Circular 99, "Pea weevil control in the Willamette Valley," by A. O. Larson, of the pea weevil laboratory. This circular briefly outlines the results obtained during the past season in Oregon. One of the new recommendations is the burning of the pea vines after threshing instead of the present practice of ploughing them under as a source of humus.

Farmers' Bulletin 1655, "The control of moths in upholstered furniture," became available for distribution in February. This bulletin meets a widespread demand for information in the warehousing and furniture industries.

CEREAL AND FORAGE INSECTS

W. H. Larrimer, in Charge

Philip Luginbill, C. H. Batchelder, F. L. Simanton, G. T. Bottger, and V. F. Kent, of the corn borer research investigations, participated in a conference on insecticides at Wooster, Ohio, on February 20.

G. I. Reeves, in charge of the Salt Lake City field laboratory, spent the latter half of February in consultation with Bureau officials in Washington.

Elmer W. Beck has been appointed Junior Entomologist, and assigned to the sublaboratory at Monroe, Mich.

Dr. C. L. Marlatt and F. C. Bishopp visited the New Orleans field laboratory on February 27.

A seven-room laboratory building has been constructed at Houma, La., by the American Sugar Cane League. This is rented jointly by the Bureau of Entomology and the Bureau of Public Roads. J. W. Ingram and E. K. Bynum, of the sugarcane insect investigations, are thus provided with satisfactory quarters.

BEE CULTURE

Jas. I. Hambleton, in Charge

George E. Marvin, of the University of Wisconsin, has been appointed Assistant Apiculturist and reported for duty February 2 at the main laboratory of the Division of Bee Culture, Somerset, Md. For the past few years Mr. Marvin has been working with Prof. H. F. Wilson, Dr. E. B. Fred, and Dr. W. H. Peterson, of the University of Wisconsin, and has had wide experience in research dealing with the chemistry and bacteriology of honey.

On Mr. Hambleton's trip to the Pacific Coast (as mentioned in the Monthly Letter for January) he conferred with the Director and other officials of the Oregon State Agricultural College, Corvallis, with respect to cooperative research investigations in apiculture. A similar conference was held with Dean C. B. Hutchison and Prof. W. B. Herms, of the University of California, relative to apicultural research in California. Final plans were made for the establishment of the Pacific Coast Bee-Culture Field Laboratory on the farm of the University of California, at Davis.

On February 5 Mr. Hambleton spoke at the annual meeting of the Ohio State Beekeepers' Association, Columbus, Ohio, which was held in conjunction with Farmers' Week. On February 11 he addressed the meeting of the American Honey Producers' League, which was held at the Royal York Hotel, Toronto, Canada, in conjunction with the annual meeting of the Ontario Beekeepers' Association, the American Honey Institute, and the Association of Apiary Inspectors of America. In spite of the low prices of honey and the poor crops of the past season the meetings were well attended, particularly by Canadian honey producers. Jas. Gwin, Department of Agriculture and Markets, Madison, Wis., was elected president of the American Honey Producers' League, and V. G. Milum, of the University of Illinois, was appointed secretary.

H. B. Parks, in charge of the Division of Apiculture, Texas Agricultural Experiment Station, generously presented several rare and valuable bee journals to the Beekeeping Library of the Department of Agriculture. Professor Parks has made other important contributions to the Beekeeping Library, which shows that while he is engaged in establishing a library at the State Apicultural Research Laboratory, San Antonio, Tex., he also has a keen and unselfish interest in the Beekeeping Library of the Department.

E. G. Carr, Deputy Bee Inspector, Pennington, N. J., R. S. Filmer, Associate Entomologist in charge of research in apiculture at the New Jersey State Agricultural Experiment Station, and R. Ross Mattis, a commercial beekeeper of Riverton, N. J., visited the bee-culture laboratory on February 26, enroute from Montgomery, Ala., where they attended the Southern Beekeeping Conference.

Dr. Warren Whitcomb, jr., of the Southern States Bee-Culture Field Laboratory, Baton Rouge, La., represented the Bureau of Entomology at the Southern Beekeeping Conference held at Montgomery, Ala., February 18 and 19. Representatives from eleven States were in attendance at the conference, which was well participated in by all delegates. E. G. Le-Stourgeon, editor of the Beekeepers' Item, San Antonio, Tex., was elected president, and Prof. Jesse M. Robinson, head of the department of entomology of the Alabama Polytechnic Institute, Auburn, Ala., was elected secretary.

On February 11 G. H. Vansell and Frank E. Todd were appointed Associate Apiculturists and reported for duty at Davis, Calif., where the recently established Pacific Coast Bee-Culture Field Laboratory will be located. For a number of years Professor Vansell has been engaged in research, and has conducted apicultural classes at the University of California. Mr. Todd, prior to his appointment, was entomologist, in charge of apiary inspection, at the California State Department of Agriculture. E. L. Sechrist, Associate Apiculturist, left Washington February 28 to take temporary charge of the new station. Mr. Sechrist has recently been actively engaged in cooperative studies conducted with the Division of Farm Management, Bureau of Agricultural Economics, relating to certain economic studies in apiculture. It is contemplated that similar studies will be inaugurated on the Pacific Coast.

FOREST INSECTS

F. C. Craighead, in Charge

J. C. Evenden, in charge of the field laboratory at Coeur d'Alene, Idaho, spent the last week in February in the Washington Office, conferring with Bureau officials and with the Forest Service in the planning of extensive forest-insect control projects involving the expenditure of approximately \$200,000 during the months of April, May, and June.

Dr. K. A. Salman has completed his notes on insect specimens which he collected at Berkeley, Calif., last summer, and is formulating plans for an early beginning of the field season; if his present arrangements are carried out, this will be initiated by a trip to the southern part of the State about the first of March, in company with L. G. Baumhofer, Assistant Entomologist at the field laboratory at Prescott, Ariz.

High-temperature tests to determine fatal temperatures for larvae of Scolytus ventralis were run by G. R. Struble at the Berkeley, Calif., field laboratory, during the month of February, as a preliminary step to a test of the control of this insect by solar heat.

On February 11 to 13 J. A. Beal and G. R. Struble, of the Berkeley, Calif., field laboratory, made a trip to Strawberry, Stanislaus National Forest, where they obtained brood bark and green logs for continued biological studies of the western pine beetle and the fir engraver beetle.

A cabinet for maintaining four stages of constant-temperature conditions has been built into the laboratory at Berkeley, and will be used by Mr. Beal in his studies for the determination of optimum temperature conditions for the western pine beetle.

J. N. Jeffrey, who has been under appointment by the California State Board of Forestry, is now assigned to cooperative work with the Berkeley laboratory. The object of the study is to determine the nutritional requirements of the western pine beetle.

R. E. Campbell, of the soil-insect investigations of the Division of Truck-Crop Insects, Alhambra, Calif., visited the Berkeley laboratory on February 6.

INSECTS AFFECTING MAN AND ANIMALS

F. C. Bishopp, in Charge

F. C. Bishopp made a trip through the Southeastern States during the first ten days of the month. On February 2 and 3 he visited the Charleston, S. C., field laboratory, and on February 4, 5, and 6 he was in attendance upon the meetings of the Southern Agricultural Workers at Atlanta, Ga. He was in Orlando, Fla., February 8 and 9.

H. H. Stage, who for several years has been the entomologist of the Cotton Belt Railroad, was appointed Associate Entomologist, effective February 13, and was assigned to take charge of the mosquito field laboratory at Portland, Oreg. Prior to reporting there on March 2, Mr. Stage spent several days studying mosquito material in the National Museum. In company with Dr. L. O. Howard, he attended the meetings of the New Jersey Antimosquito Association, at Atlantic City, N. J., February 18 to 20.

The malaria mosquito laboratory, which has been located at Mound, La., for several years past, has been moved to Orlando, Fla. Personnel and equipment left Mound on February 24. George H. Bradley is acting in charge.

F. C. Bishopp has been elected a member of the National Malarial Committee, which usually meets annually in conjunction with the Southern Medical Association.

JAPANESE-BEETLE AND ASIATIC-BEETLE RESEARCH

C. H. Hadley, in Charge

R. W. Burrell, a member of the laboratory staff, is now located at Homebush, Australia, in a field laboratory. As Homebush is just outside of Sydney, Mr. Burrell retains his mailing address as, care of American Consulate in Sydney. Mr. Burrell is making a survey and study of the parasites of the rutiline Coleoptera. Those parasites discovered to date are all Diptera; however, Mr. Burrell finds that the Thynnidae (Hymenoptera) are abundant in species and it is expected that further studies will connect this parasitic group with some of the rutiline hosts.

Dr. J. M. Rasek of the Moravian Research Institute for Plant Pathology, Czechoslovakia, spent February 6 at the laboratory. Dr. Rasek was much interested in the methods of rearing parasites.

On February 12 and 13, Dr. Neale F. Howard of the Mexican Bean Beetle Laboratory, Columbus, Ohio, visited this laboratory. Dr. Howard spent much of his time discussing problems and methods of parasite rearing; his success in rearing successive generations of tachinid parasites of the Mexican bean beetle throughout the winter months is not a common accomplishment, and the methods used were of much interest and value to laboratory members.

Edgar G. Rex and Harry B. Weiss of the New Jersey Department of Agriculture conferred with the members of the laboratory regarding treatment of lawns with lead arsenate, and also discussed other problems.

Dr. John Glassford, chief chemist for McCormick & Company, Inc., Baltimore, Md., visited the laboratory to discuss the pyrethrum situation.

On February 17, C. H. Hadley, W. E. Fleming, and J. L. Talbert, of the Moorestown laboratory, visited Harold C. Hallock, who is working on the Asiatic beetle at the Westbury, Long Island, sublaboratory, and also visited F. J. Spruijt, who is working on the control of bulb insects at the Babylon, Long Island, field laboratory.

C. S. Beckwith of the Cranberry substation of the New Jersey Experiment Station visited the laboratory to discuss the treatment of blueberries to destroy the Japanese beetle.

Dr. R. P. White, of the New Jersey Experiment Station, visited the laboratory on February 26 to examine roses which had been sent to us from a commercial nursery for observation to determine the effects of treatment for the Japanese beetle.

M. F. Caule, of the Fumigators Supply Company, called at the laboratory to discuss cyanide fumigation, and to offer the assistance of the company in experimentation on that subject.

George Lamb, County Agent, Woodbury, N. J., called at the laboratory to obtain advice on the treatment of tomato seed beds which were infested with white grubs, thought to be larvae of the Japanese beetle.

G. K. Handle, O. K. Courtney, J. P. Johnson, V. A. Johnson, and C. W. Stockwell, of the Japanese beetle office of the Plant Quarantine and Control Administration, have visited the laboratory several times, to discuss problems bearing on the quarantine situation.

DECIDUOUS-FRUIT INSECTS

(Under the direction of Chief of Bureau)

J. K. Holloway, Assistant Entomologist, who has been engaged in the Japanese beetle project at Moorestown, N. J., since 1927, has been transferred to the oriental fruit moth project and will be engaged in parasite investigations, with headquarters at the above place. He will be concerned principally with the mass production of parasites of the oriental fruit moth and will receive foreign importations.

G. J. Haeussler has transferred his headquarters in France from Antibes to Nice. His new location is nearer to the principal localities for collecting parasites of the oriental fruit moth in southern Europe and is one of the principal ports from which shipments in that region may be made.

Oliver I. Snapp was in Washington from January 27 to February 2 to attend the conference on deciduous-fruit insect investigations and for consultations pertaining to the work of the peach insect laboratory at Fort Valley, Ga.

Oliver I. Snapp and J. R. Thomson attended the meetings of the Cotton States Entomologists in Atlanta, Ga., February 5 and 6, at which both presented papers giving results of some of the peach insect investigations conducted during the season of 1930. Mr. Snapp was reelected Secretary-Treasurer of the organization for a three-year period.

L. J. Bottimer and G. D. Reynolds, of the Food, Drug, and Insecticide Administration, were at the Fort Valley laboratory from February 9 to 19 working on the project dealing with proprietary insecticides for the control of the San Jose scale.

Oliver I. Snapp gave an address at a Kiwanis Club luncheon in Montezuma, Ga., on February 18, at which the peach growers of Macon County were guests.

TRUCK CROP INSECTS

J. E. Graf, in Charge

Dr. N. F. Howard, Senior Entomologist in charge of the field laboratory at Columbus, Ohio, visited Washington February 3 to February 11, to consult with Bureau officials. He visited Moorestown, N. J., February 12 to 13, to confer with Messrs. Hadley, King, and others, in regard to having a representative of the laboratory in Australia investigate parasites of the genus *Epilachna* in that country.

Dr. Rodney Cecil, Associate Entomologist, who has been engaged on the lima-bean pod borer problem at Alhambra, Calif., established permanent headquarters at Ventura, effective February 1. Dr. Cecil's address is Box A-3, Ventura, Calif.

Dr. Cecil and R. E. Campbell, Alhambra, Calif., conferred with Prof. W. W. Mackie, Associate Agronomist, University of California, Berkeley, Calif., on February 6, regarding cooperation with him in his work on bean breeding with reference to studies and tests of an indicated resistance of certain varieties of lima beans to attacks of the pod borer.

While in Berkeley Mr. Campbell met with representatives of the State Department of Agriculture and the University of California to discuss the vegetable-weevil investigations conducted jointly by the three agencies.

C. E. Smith, Associate Entomologist in charge of the field laboratory at Baton Rouge, La., visited Washington February 6 to 15, to confer with Bureau officials.

G. A. Mail, Collaborator, Bozeman, Mont., visited Walla Walla, Wash., February 12 to 14, to discuss the wireworm problem with M. C. Lane.

E. W. Davis, Assistant Entomologist at Salt Lake City, Utah, and V. E. Romney, Junior Entomologist, State College, N. Mex., were called to Twin Falls, Idaho, for conference with Dr. P. N. Annand and others on the sugar-beet leafhopper problem.

S. E. Crumb, Entomologist in charge of the field laboratory at Puyallup, Wash., conferred with Bureau officials in Washington, February 9 to 28.

COTTON INSECTS

F. C. Bishopp, in Charge

Dr. C. L. Marlatt, Chief of Bureau, spent February 24 and 25 at Tallulah, La.

F. C. Bishopp went to Tallulah on February 11, remaining the rest of the month.

R. B. Mull, Office of Accounts, Bureau of Entomology, was in temporary charge of accounts at the Tallulah field laboratory from February 3 to 28.

Dr. F. A. Fenton, in charge of the El Paso, Tex., field laboratory, spent February 3 and 4 at Tallulah.

Dr. E. W. Dunnam, in charge of studies on biology of the cotton bollworm at Bryan, Tex., spent several days at Tallulah, preparing reports and manuscripts.

Dr. J. W. Folsom, Dr. F. A. Fenton, and Dr. E. W. Dunnam attended the annual meeting of the Cotton States Branch of the American Association of Economic Entomologists, February 5 and 6, at Atlanta, Ga.

The resignations of F. W. McDuff, Junior Administrative Assistant, and Haw Kirkpatrick, Photographer, at the Tallulah field laboratory, became effective February 2 and February 28, respectively.

Owing to the separation from the service of B. R. Coad, formerly in charge of the Division of Cotton Insects, the direction of this division has been taken over by F. C. Bishopp, with headquarters in Washington, D. C.

TAXONOMY

Harold Morrison, in Charge

Dr. J. G. Needham, head of the department of entomology, Cornell University, Ithaca, N. Y., was in the taxonomic unit February 3.

Dr. A. Avinoff, Director of the Carnegie Museum, Pittsburgh, Pa., came to the National Museum February 7 to examine the collections of Lepidoptera and to consult the Bureau's specialists.

A. M. Boyce, of the California Citrus Experiment Station, at Riverside, who is conducting investigations on the insects affecting both wild and cultivated walnuts, was in the National Museum February 9 to 11, studying the collection of walnut flies of the family Trypetidae.

On February 12, S. E. Crumb, of the Bureau's truck-crop insect laboratory at Puyallup, Wash., came to Washington and will spend some time here studying the larvae of the North American Noctuidae.

Don M. Rees, of the University of Utah, at Salt Lake City, spent February 17 in the section of Diptera, discussing mosquitoes and their classification.

J. F. W. Pearson, of the department of entomology, University of Chicago, examined the National collection of North American bees of the genus Halictus February 19, in connection with observations he has been making on these bees in the section near Chicago.

H. H. Stage, of the Division of Insects Affecting Man and Animals, spent parts of the interval February 20 to 26 studying the collection of mosquitoes preparatory to undertaking biological and control investigations on them in the region of the Columbia River in Oregon.

On February 21, J. Lyell Clarke, Sanitation Engineer of the Des Plaines Valley Mosquito Abatement District, Riverside, Ill., came to Washington to discuss mosquito problems with C. T. Greene of the Bureau's staff.

LIBRARY

Mabel Colcord, Librarian

NEW BOOKS

- Barbosa, J. V.
Cartilha do sericicultor. 29 p., illus. Rio de Janeiro, Typ. do Servico de Informacoes de Ministerio da Agricultura, 1930.
- Bradley, J. C.
A key to the North American families of beetles. 16 p. Ithaca, N. Y., Daw, Illston and Company, 1930.
- A manual of the genera of beetles of America north of Mexico . . . 360 p. Ithaca, N. Y., Daw, Illston and Company, 1930.
- Chenevard, W.
La cire d'abeilles en Tunisie et les méthodes modernes d'extraction. Tunis. Direction Générale de l'Agriculture, du Commerce et de la Colonisation. Bulletin, v. 33, No. 138, p. [297]-335, illus., 1929.
- Congrès international sur les appareils utilisés dans la lutte contre les ennemis des cultures tenu à Lyon, Salle du conservatoire et exposition-démonstration tenue dans les domaines de l'Ecole d'agriculture d'Ecully (Rhône) 24 et 25 Juillet 1929 . . . Compte rendu . . . 218 p., illus. Paris, Service Agricole de la Compagnie P. L. M., 1930.
- Dadant, C. P.
El metodo Dadant en apicultura; version del ingles por Emilio M. Martinez Amador. 160 p., illus. Barcelona, G. Gili, 1928.
- Le système Dadant en apiculture . . . 133 p., illus. Québec, Imprimerie Laflamme, 1922.
- Il sistema d'apicultura Dadant. Tr. Vincenzo Asprea. 113 p., illus. Rocca S. Casciano, Lincinio Capelli, 1923.
- Dalla Torre, K. W. von, and Hustache, A.
Curculionidae: Ceuthorrhynchidae. 150 p. Berlin, W. Junk, Nov. 11, 1930. (Junk, W. Coleopterorum Catalogus, ed. S. Schenkling, Pars 113.)
- Edwards, W. H.
La teigne du tabac Phthorimaea operculella. 8 p., fold. plate. Port Louis, Bumstead, 1929. (Dept. Agr. Ile Maurice Ser. Sci., Bul. 13.)
- Kenya Colony & Protectorate. Department of Agriculture. Repellent banding to control the ants attending the common coffee mealy-bug (Pseudococcus lilacinus) 14 p., illus. Nairobi, Government Printer, 1930. [H. C. James, Entomologist.]
- Langstroth, L. L.
La abeja y la colmena, obra revisada y completada por Carlos Dadant y C. P. Dadant; traducida al español por M. Pons. Fabregues. Ed. 2. 639 p., illus. Barcelona, G. Gili, 1924.

- ... L'ape et l'arnia; opera rivedata e completata da C. P. Dadant.
Prima edizione italiana. 454 p., illus. Torino, Società tipografico-editrice nazionale, 1928.
- Lindner, Erwin
Die Fliegen der palaearktischen Region, Lfg. 49. 31. Syrphidae.
p. 177-240, Stuttgart, E. Schweizerbart'sche Verlagsbuchhandlung,
1930.
- Melin, Douglas
Hemiptera from South and Central America (Revision of the genus
Gelastocoris and the American species of Mononyx.) Zoologiska
Bidrag fra Uppsala, Bd. XII, p. 157-198, 1930. [Literature, p.
197-198.]
- Mexico - Secretaria de Agricultura y Fomento.
Almanaque . . . 1931. 712 p., illus. Tacuba, D. F., Secretaria de
agricultura y fomento, 1930. [Calendario de apicultura, p. 173-201;
Calendario de horticultura, p. 265-696.] [More than half of this
publication deals with Entomology.]
- Moutia, Andre
... Le Surra à Maurice et son principal vecteur "Stomoxys nigra."
12 p. Port Louis, Bumstead, 1929. (Dept. Agr. Ile Maurice, Ser.
Sci., Bul. 12.)
- Needham, J. G.
A manual of the dragonflies of China. A monographic study of the
Chinese Odonata. 344 p., 20 pl. Peiping, China, Fan Memorial In-
stitute of Biology, October, 1930. (Zoologica Sinica Ser. A. Inver-
tebrates of China, vol. II, fasc. 1.) [Bibliography, p. 293-304.]
- Schober, Joseph, and Cuthill, R.
Silk and the silk industry. 375 p., illus. New York, Richard Smith,
Inc., 1930. Bibliography, p. 325-354.
- Szalay, L.
Die Hydracarinien-Fauna des Baltonsees I-II. Tihany, Editio Museo
Nationalis Hungarici, Budapest, 1926-1927. (Archivum Baltonicum,
v. 1, pt. 1, p. 33-53, March 30, 1926, and pt. 3, p. 421-440, 1927.)
- Tarlier, A. L. D.
L'Hypoderma bovis chez le cheval . . . 47 p., Paris, Vigot frères,
1930. (At head of title: Ecole nationale vétérinaire d'Alfort.
Thèse pour le doctorat vétérinaire [Univ. de Paris] année 1930, No.
5) Bibliographie, p. 45-46.
- Uichanco, L. B.
Coal tar-kerosene emulsion and its uses as an insecticide. Philip-
pine Agriculturist, v. 19, No. 8, p. 501-505, January, 1931.
- Vézes, Henri
Les mouches à truites. Fêche à la mouche sèche. Entomologie des
mouches à truites. Utilisation des mouches artificielles, par M.
Ryves [pseud.] Préface de M. Roule . . . 116 p., illus. Paris,
Delagrave, 1930.

Williams, C. B.

The migration of butterflies . . . 473 p., illus. Edinburgh and London, Oliver and Boyd, 1930. (Half title: Biological monographs and manuals No. IX.) [Bibliography, p. 427-455.]

Zacher, F.

. . . Untersuchungen zur Morphologie und Biologie der Samenkäfer Bruchidae-Lariidae) . . . 233-384 p. Berlin, Parey, 1930. (Arbeiten aus der Biologischen Reichsanstalt für Land- und Forstwirtschaft Berlin-Dahlem, Bd. 18, Hft. 3.) [Literaturverzeichnis, p. 378-384.]

